

**ATTACHMENT 4A**  
**LEVEL OF EFFORT**  
**Task Outline and Fee Estimate Worksheet**  
**Bristol West - Waterline Replacement Project**  
**VTM Project No: 22-1.3**

Date: 5/5/23  
 Prepared By: SLP

Item	Description	Principal Engineer	Project Engineer	Field Data Collection & Survey	Expenses & Subcontracts	Labor Costs	Total Costs
<b>STEP II - Final Design Phase Services</b>							
<b>I</b>	<b>Final Design Phase Engineering Services</b>						
I	Master project planning & scheduling (25 streets + cross country lines)	40	3			\$5,300	\$5,300
II	Step II Funding Application (Bristol West)	36				\$4,500	\$4,500
III	Step II Engineering Services Agreement	24				\$3,000	\$3,000
IV	Layout/Drawing Preparation (Estimate 31 sheets, 4 iterations )	200	744			\$99,400	\$99,400
V	60% Drawing Preparation/Review with Client (12 Street Segments)	16				\$2,000	\$2,000
VI	90% Bid Document Preparation	40				\$5,000	\$5,000
VII	90% Drawing Submittal/Review Process with Client	16				\$2,000	\$2,000
VIII	Preparation/Public Review Meeting & Presentation with Selectboard	8				\$1,000	\$1,000
IX	Permit to Construct Preparation/Submittal/DEC Review	8				\$1,000	\$1,000
X	Final Internal Engineering Review & 100% Completion of Drawings & Specifications	40				\$5,000	\$5,000
XI	Material Takeoffs/Cost Estimates	24	60			\$9,000	\$9,000
XII	Environmental Documentation - SHPO, Env., Act 250, NEPA	60				\$7,500	\$7,500
XIII	ROW Certification Town Attorney Coordination	16				\$2,000	\$2,000
XIV	Project Management/Correspondance/Coordination	160				\$20,000	\$20,000
XV	Construction Permit Fees				\$900	\$0	\$900
XVI	Copies/Reproduction (Cost)				\$500	\$0	\$500
<b>Subtotal</b>		<b>688</b>	<b>807</b>	<b>0</b>	<b>\$1,400</b>	<b>\$166,700</b>	<b>\$168,100</b>
<b>II</b>	<b>Field Survey</b>						
I	Topo Survey/Field Reconnaissance & Coordination (12 street segments)	8		288		\$47,080	\$47,080
II	Travel (2 people x 30 days x 44 miles @\$0.655) = \$57.64/day				\$1,729	\$0	\$1,729
<b>Subtotal</b>		<b>8</b>	<b>0</b>	<b>288</b>	<b>\$1,729</b>	<b>\$47,080</b>	<b>\$48,809</b>
<b>III</b>	<b>Special Services</b>						
I	Hartgen Archeological Services - Sect. 106 Nat. Hist. Preservation Act (Cost + 8%)				\$6,000	\$0	\$6,000
II	LE Environmental Services - DEC Linear Assessment (Cost + 8%)				\$26,500	\$0	\$26,500
<b>Subtotal</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>\$32,500</b>	<b>\$0</b>	<b>\$32,500</b>
SUBTOTAL (hours)		696	807	288			
HOURLY RATE (\$/hr)		\$125	\$100	\$160			
Subtotal Expenses (\$)					\$35,629	\$213,780	\$249,409
<b>TOTALS BY WORK TYPE:</b>							
Water System Improvements - Final Design		\$216,909					\$216,909
Special Services (Archeology & Environmental)		\$32,500					\$30,093
<b>Total</b>		<b>\$249,409</b>					<b>\$249,409</b>
							TOTAL LABOR & PERMIT FEES: \$216,909
							TOTAL SUBCONTRACTOR EXPENSES: \$30,093
							ALLOWABLE MARK-UP (8% on subs only): \$2,407
							<b>TOTAL COST \$249,409</b>

\*\* Estimates assume only replacement of infrastructure within the ROW.

Budgetary Construction Cost =	\$3,894,100
VT Eng. Fee Curve (Large Proj.)=	\$237,680

**6.4%** Total Eng. Cost as % of Const.

April 27, 2023

Steven L. Palmer, PE, President  
VTM Engineering, PLC  
2941 Shelburne Falls Road  
Hinesburg, VT 05461

Re: Proposal for Environmental Assessment, Bristol, VT

Dear Steve,

LE Environmental LLC (LEE) is pleased to provide this proposal for environmental assessment in connection with pending utility upgrades in Bristol, Vermont. Thank you for reaching out to LEE for this proposal.

The Preliminary Plan C1.1 shows the work in four quadrants: Rockydale; East; South; and, West. LEE understands that the east and west quadrants are currently under consideration and this proposal addresses those quadrants. The goal of the environmental assessment is to identify and test areas at risk for subsurface contamination in advance to avoid construction delays and cost overages.

Vermont Department of Environmental Conservation (DEC) guidance specifies a “Linear Assessment” (LA) within the project area to identify past and present property uses that could lead to subsurface contamination. The DEC guidance allows, but does not require, a full ASTM Phase I Environmental Site Assessment (ESA) in lieu of the LA report.

LEE recommends preparing LA reports for each quadrant. They will generate the information required to plan for areas at-risk for environmental contamination, as well as the environmental review information you are separately tasked with providing. A Phase I ESA would cover the same topics, but would also require substantial additional work that would add substantial cost and may not add significant value. The Phase I ESA has a 180-day shelf life at which time may need to be updated.

#### Work Scope

LEE’s work scope includes:

- Two Linear Assessment Reports (East and west Quadrants)
- Daily Geoprobe Soil Sampling and Laboratory Testing rate
- Two Soil Management Plans (East and west Quadrants)

### Linear Assessment Reports

LEE will prepare two separate LA reports, one for the east quadrant and one for the west quadrant. We will utilize the Agency of Natural Resources Atlas and DEC Environmental Resource Tool (ERT), and maps, aerial photographs and street directory information from EDR. We will perform a “windshield survey” of each street in the two quadrants to note potential current at-risk property uses, and for evidence of historic uses. Inspection of individual private properties is not anticipated except as seen from the streets. Recommendations will be made for investigations of areas at risk for subsurface contamination. Following the Town’s review and approval, the LA reports will be submitted to DEC Sites Management for review and approval. LEE will respond to any comments made during review.

### Geoprobe Soil Sampling and Testing

Following DEC approval of the LA reports, LEE will sub-contract with T&K Drilling of Troy, NH for Geoprobe soil borings. Since the number and size of at-risk areas is not yet known, this task is presented on a daily basis. The specific number and placement of soil borings and samples will be specified in the LA reports. More than one day of drilling and testing may be needed to fully evaluate all of the at-risk areas identified in the LA reports.

LEE will pre-mark the proposed soil boring locations at least 2 days before drilling, and will notify Dig-Safe. We should be able to pre-mark all of the recommended drilling locations during the same mobilization even if more than one day’s drilling is required. We assume that the Town will be responsible for marking its own buried utility lines prior to drilling. Private locating services are not included but could be arranged for an additional fee if needed. This scope also assumes that the Town will provide any necessary traffic control during pre-marking and drilling.

Based on LEE’s experience with similar LA work, this work scope assumes that a full day of Geoprobe drilling will result in 8 soil borings advanced to 15’ depth, and that two soil samples per boring will be collected and tested (one shallow sample and one deeper sample). The shallow and deeper soil sampling strategy will aid further evaluation of soil re-use and disposal options. The soil samples (16 samples and 1 duplicate for quality control per day) will be submitted to Eastern Analytical, Inc. for analysis of the following typical contaminants encountered in subsurface urban environments:

- Volatile Organic Compounds (VOCs) via EPA Method 8260c
- Polycyclic Aromatic Hydrocarbons (PAHs) via EPA Method 8270e
- RCRA 8 Metals via EPA Method 6020a
- PCBs via EPA Method 8082a
- Total Petroleum Hydrocarbons (TPH) via EPA Method 8015DRO

These testing results will allow soils to be classified as to their ultimate disposition (unrestricted reuse, reuse restricted to urban area, reuse restricted to in-place, or landfill disposal necessary). If surplus soils were generated such that reuse were not possible and landfill disposal became necessary, additional testing could be required by the disposal facility but this would be determined later on during SMP preparation.

### Soil Management Plans

Once the soil borings are complete and lab data is available, Soil Management Plans (SMP's) including the elements contained in I-Rule §35-804 will be prepared for review and approval. Separate SMP's will be prepared for the east and west quadrants. A description of the methodologies and results will be included. Comparison with appropriate environmental and materials quality standards will be made. If anticipated soil disposal volumes can be provided, we would calculate re-use and disposal quantity estimates. The reports will also contain: sampling locations maps, contaminant concentration maps, laboratory analytical data, recommendations for soil management and additional work if necessary, conclusions, and other recommendations, as applicable.

### Pricing

Pricing to conduct this work is as follows:

1. Linear Assessment Reports (2)	\$5,875 (fixed price)
2. Pre-mark Drilling Locations (1)	\$750 (fixed price)
3. Geoprobe Soil Borings and Sampling/Testing	\$13,850 (Day Rate) <sup>1</sup>
4. Soil Management Plan (2)	\$4,050 (fixed price)

This pricing is contingent on the following assumptions:

- The linear assessment reports price is fixed pricing for two reports.
- The Geoprobe soil borings/sampling/testing price is a daily price. Portions of days and / or additional or fewer soil samples collected would result in price adjustments as appropriate.
- The SMP pricing is fixed pricing for two reports.
- Town of Bristol will assist with pre-marking utilities and boring locations, and will provide any necessary traffic control during soil borings.
- VMI Engineering PLC will provide soil quantity estimates and any additional drafting services beyond those specified that may be required for drawings in the soil management plan, for example if adding boring locations to C1.1 were necessary.

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<sup>1</sup> Day rate includes \$2,400 Geoprobe fee, \$9,900 Laboratory Fee, \$1,550 LEE fee.

Steven L. Palmer, PE  
VTM Engineering, PLC  
April 27, 2023



Schedule

The linear assessment reports can be completed within eight weeks of notice to proceed. We will accommodate scheduling the work thereafter in line with necessary approvals from the Town and DEC.

Thank you for the opportunity to present this proposal. Please let us know if this meets with the Town's approval. If acceptable, please let us know and we will forward a services agreement for signatures.

Sincerely,

A handwritten signature in black ink, appearing to read 'AL Liptak'.

Alan Liptak  
Senior Geologist, Co-owner

A handwritten signature in black ink, appearing to read 'Angela Emerson'.

Angela Emerson, PG, EP  
Senior Geologist, Co-owner



April 27, 2023

1744 Washington Ave Ext  
Rensselaer, NY 12144

Steve Palmer  
VTM Engineering  
e. spalmer@vtmengineering.com

**CORPORATE**

1744 Washington Ave. Ext  
Rensselaer NY 12144

p +1 518 283 0534  
f +1 518 283 6276

**NEW ENGLAND**

PO Box 81  
Putney VT 05346

p +1 802 387 6020  
f +1 802 387 8524

Subject: Bristol Water Upgrades, Town of Bristol, Addison County, VT  
Proposal for Archeological Resource Assessment  
P2023-081

Dear Mr. Palmer,

This letter presents Hartgen Archeological Associates, Inc.'s proposal for the above-referenced project. Hartgen's understanding of the project is summarized below:

- The project has involvement from the VT DEC through the EPA's Drinking Water State Revolving Fund and is subject to compliance with Section 106 of the National Historic Preservation Act.
- The cultural resources investigation will be reviewed by the Vermont Division for Historic Preservation (VDHP).
- The project entails the replacement of the circa 1905 water lines within the West Side (12 streets) and East Side (13 streets) water districts.
- The area of potential effects (APE) measures approximately 9,659 linear feet for the West Side and 9,504 feet for the East Side.

## SCOPE OF WORK

This section outlines Hartgen's proposed scope of work, which adheres to the *Guidelines for Conducting Archeology in Vermont* (2017). The investigation will be overseen by a Principal Investigator who meets the Secretary of the Interior's Professional Qualification Standards outlined in *Archeology and Historic Preservation: Secretary of the Interior's Standards and Guidelines as Amended and Annotated* and required under Title 36 of the Code of Federal Regulations, Section 61 (36 CFR 61).

## Archeological Resource Assessment

The ARA will entail the following tasks:

- Compile project information including the project size, location, and description of proposed undertaking.
- Review environmental information including soils, bedrock geology, topography and hydrology.
- Conduct a site visit to observe and photograph existing conditions, present land use, and any evidence of prior soil disturbance.
- Consult the Vermont Division for Historic Preservation's Online Resource Center (ORC) to identify known archeological sites, previous archeological surveys, and National Register listed and eligible properties and districts in the vicinity of the APE.
- Examine historical maps and provide an interpretation of potential historic resources.
- Conduct research using online and published resources to prepare brief building and land-use history(ies) of approximately 2-3 properties with elevated historic sensitivity within the APE.
- Photograph structures within the APE.
- Conduct a limited number of soil core samplings in the archaeologically sensitive areas of the APE.
- Assess the archeological sensitivity and potential and provide recommendations regarding Phase IB testing.

## SCHEDULING

A preliminary schedule follows. Hartgen will commit to a schedule at the time of authorization.

- The ARA field visit can currently be scheduled for late May or June 2023.
- The report can typically be completed within 4-6 weeks of the completion of fieldwork.

## PROVISOS

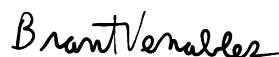
- Hartgen will be provided with projected shapefiles or a geodatabase that can be used in ArcGIS or a CAD file that can be opened in AutoCAD 2012. Include projection information. If the file is in a local coordinate system, provide a pdf file with enough information so that the site can be georeferenced (placed in the "real-world").
- This proposal does not include meeting attendance.

## FEES

- The scope of work outlined in this proposal will be completed for a lump sum cost of \$5,600.00.
- This proposal is valid for the next 60 days.

If you have any questions about this proposal, please contact me at [bvenables@hartgen.com](mailto:bvenables@hartgen.com) or 518.283.0534.

Regards,



Brant Venables, PhD, RPA  
Project Manager